Remarks/Arguments:

This is a reply to the office action of January 9, 2009.

Claim 19 has been amended to incorporate the subject matter of claims 21, 23 and 29, now canceled. Claim 20 has been amended to include a size limitation described at page 3, second full paragraph of the specification.. Editorial changes have been made to claims 22 and 25 - 28. In claim 40, the change to "crystalline carbon" is supported in the specification at page 14, and original claim 15. Claim 40 has been amended to depend from claim 22, which recites the additional mineral coating step. This step is supported in the original application at page 14 of the description, and in claims 3 and 15.

The claims as amended are deemed to distinguish the invention from the references, as explained below.

Novelty

Boissonat (US 2,451,355) refers to a process for the manufacture of a composite thread using an extrusion process. The thread passes through a device which is connected to an extruder for the application of thermoplastic material. The outlet 32 of this device serves for the calibration of the threads. However, a rotating sizing die according to new claim 1 is not disclosed. Boissonat's device 12 neither rotates nor is heated. In fact, the rotation takes place at another device (l9, see e.g. Fig. 1).

According to the description of Boissonat, the rotation device may operate on the principal of torsion imparted by a jet of air (see column 5, lines 63-67). Thus, a manufacturing step comprising a rotating, sizing and heating of the thread is not

disclosed in this document. Furthermore, a dry coating method as described in claim 19 is not disclosed.

Montsinger (WO 02/076706) discloses an impregnation process in which a roving is contacted with a thermoplastic melt. More specifically, Montsinger shows an impregnation chamber l5 having an orifice in the form of an exit die 22 at the bottom end through which the rovings are pulled. This publication does not disclose the step of coating rovings with a plastic powder in a fluidized-bed bath according to the new independent claim. Also not disclosed is the second step of passing the coated rovings through a heated rotating sizing die whereas the plastic which was applied as a powder is now present in a molten or liquid state. The exit die of Montsinger obviously is an integral part of the impregnation chamber. According to the new independent claim the steps of coating the rovings and passing the coated rovings through a rotating device takes place in two separate devices.

Claim 19 is clearly novel over Eaton (WO 02/087840), which discloses neither a dry coating method nor a rotating, sizing and heating in a rotating sizing die. Contrary to the opinion of the examiner the tow is not passing a rotating device after coating. Fig. 2 of Easton clearly shows that the twisting means (14) are arranged above an impregnation tank (l6) in a tower like structure. In the description of Eaton no other order of these method steps is indicated. The cited text passage (page l, line 25 to page 2, line 2) just says that the apparatus comprising a tank and means for twisting without defining an order.

Nonobviousness

In comparison with Boissonat, Montsinger discloses an impregnation chamber in which a rotating exit die is integrated. With the present invention, the coating and the rotating take place in devices which clearly are separate from each other. In

Montsinger, the coating and rotating of the rovings occurs in the same arrangement. This arrangement is represented by the impregnation tank whose exit is closed by a rotating exit die.

In the present invention, the rovings first pass through a fluidized-bed bath of plastic powder, (heating the plastic in order that it *is* a molten or liquid state; this next step however is not explicitly claimed) and then the coated rovings are passed through a rotating device having a rotating sizing die which is heated to at least the melting point of the fiber coating. One effect of the rotating sizing die is that any melt cone is spun away by the rotating sizing die at its die edge and is not deposited dropwise on the thread (see e.g. page 5, third paragraph, page 9, last paragraph). A further advantage is that as a result of the local rotational effect produced by the rotating device, even relatively coarse powder particles having a particle size up to 300 micrometer remain enclosed in a composite in dry coatings (see page 6, second paragraph).

A person of ordinary skill in the art would not have found the invention of claim 19 obvious from Montsinger alone.

Even a combination of Montsinger and Rodes (US 5,326,524) would have resulted in the claimed invention. Rodes shows a method in which a heated die is used. However, a rotation of the heated die is not disclosed in this publication. Its description only mentions that *"the helical arrangement* of *the fibers within the plastic rod can* be *accomplished by rotating the fiber rovings entering the rod die during pultrusion* or *by* use *of a rotating creel* or *creels of thin strips of prep reg tape prior* to *formation in a heated die"* (column 6, lines 58 to 62). In such a pultrusion process, the thermoplastic material of the rod may not be present in a molten or liquid state.

Furthermore, the rotation obviously takes place with reference to the fibers. The output product in Rodes is a plastic rod having fibers in a helical formation. So the

prior art does teach having fibers in a helical formation, i.e., away from the presently claimed invention which finally results in plastic-coated fibers whose filaments have no spiral revolutions after passing through the rotating device.

We believe that the claims now presented distinguish the invention from the prior art and that the application as now presented is in condition for allowance.

Respectfully submitted,

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